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DISEASES OF THE NERVOUS SYSTEM

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

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DISEASES of the NERVOUS SYSTEM

(PUBLISHED MONTHLY)

A PRACTICAL JOURNAL ON PSYCHIATRY AND NEUROLOGY

Experiences With Personality Testing in a Neuropsychiatric Department of a Public General Hospital*

JOSEPH C. MICHAEL, M.D. and
CHARLOTTE BUHLER, Ph. D.
Minneapolis, Minnesota

In this paper we undertake a critical survey of our experiences with personality tests as a help in the diagnosis of neuropsychiatric cases. The survey covers a period of one year during which a total of 227 patients were tested.

The test batteries employed in our investigations embrace the most popular present projective techniques, personality inventories, intelligence, deterioration and performance tests. We shall compare and evaluate in this review mainly the results obtained with the two techniques which were applied most frequently, namely, the Rorschach (R) and the Minnesota Multiphasic (MM) tests. We will add some observations on the Murray Apperception (TAT) and on the Buhler-Kelly World (W) tests. We shall not go into any discussion of intelligence or performance testing. It may be but briefly mentioned that we use the Wechsler-Bellevue (WB) as the most practical intelligence test. We also used the Stanford-Binet, especially with younger patients.

TABLE I.

TOTAL NUMBER OF CASES TESTED BETWEEN JULY 1, 1943 AND JULY 25, 1944

	I. TOTAL		II. With Rorschachs (R)		III. With Minnesota Multiphasics (M.M.)	
	Male	Female	Male	Female	Male	Female
0-10	8	4	5	3	0	0
11-16	5	10	3	9	1	8
17-25	15	36	11	20	12	26
26-35	29	33	21	25	25	29
36-45	41	16	24	13	36	11
46-60	14	14	11	10	13	9
61 plus	2	0	2	0	1	0
Totals	114	113	77	80	88	83
Grand Totals	227		157		171	

From our 227 case records, we obtained a total of 157 Rorschach (77 male, 80 female) and 171 Minnesota Multiphasic (88 male, 83 female) test reports. Table I enumerates this data and also the distribution of age and sex. From these we selected a limited number of well studied cases, some of which belong to the most common clinical groups.

In the list of patients included in our present study are cases ultimately diagnosed as psychoneurosis, psychosis, cases with an organic basis such as epilepsy or brain injry and a small number of psychopaths without psychosis. The distribution and total number of cases which we use are shown on Table II.

* From the Minneapolis General Hospital and Medical School, University of Minnesota. Read at annual meeting of Central Neuro-psychiatric Association, Chicago, Oct. 31, 1944.

TABLE II.

COMPARISON OF RORSCHACH (R) AND PSYCHIATRIC DIAGNOSIS

Clinical Group	Psychiatric Diagnosis No. Cases	R. plus Diagnosis No. Cases	R. minus Diagnosis No. Cases	% of plus Cases
Psychneurosis	40	40	0	100
Psychopathy	19	2	17	10
Psychosis	26	21	5	80
Organic Cases	16	14	2	87
Total	101	77	24	76.2

COMPARISON OF MINNESOTA MULTIPHASIC (MM) AND PSYCHIATRIC DIAGNOSIS

Clinical Group	Psychiat. Diagnosis No. Cases	MM plus Diagnosis No. Cases	MM minus Diagnosis No. Cases	% of plus Cases
Psychoneurosis	42	18	24	43
Psychopathy	20	8	12	40
Psychosis	28	15	13	54
Total	90	41	49	45.5

In evaluating the merits of the tests it must be remembered that all the cases included in this study represent problems for diagnosis. We did not plan a research task primarily. We used the tests where they were most needed. The cases chosen represent a selection from a considerably larger group of a "run of the mine" list, and the selection is based on the existence of some complex problem in clinical diagnosis. This process of selection will naturally increase the complexity of the task for the psychologist, and at the same time tends to decrease the percentage of successes.

Assuming that the psychiatric diagnosis can be used as a standard, we find out of 101 Rorschach diagnoses, 76% successes and in 90 Minnesota Multiphasic diagnoses, 45% successes. All unclear diagnoses were scored as unsuccessful. The predictive value of these two tests in statistical terms, is indicated in Table III.

S.E. presents the standard error of the proportion of "plus" diagnoses; it is a measure of the variation to be expected in the proportion of "plus" diagnoses for samples of like size.

The given 50% zones are the approximate zones within and outside of which it is equally probable that proportions of "plus" diagnoses will occur.

The given 95% zones are the zones outside of which there is approximately only one chance in twenty that proportions of "plus" diagnoses will occur.

If we look at these tables in more detail we find that the discrimination of psychoneurosis and psychosis is quite successful when the Rorschach is used adequately. Also the detection of organic factors is very good. We get, however, little help from the Rorschach when we want to discriminate a psychopath from a psychoneurotic. We have much the same difficulty with the Minnesota Multiphasic. The main problem which we found in the use of the Minnesota Multiphasic was that there were many unclear results in which the interpretation of the curve seemed doubtful.

We can go a little further in our analysis. We tried to check on the Rorschach and the

TABLE III.

CALCULATION OF 50% ZONES AND 95% ZONES FOR PROPORTIONS OF "PLUS" DIAGNOSES WITH RORSCHACHS AND MULTIPHASICS

Test and Clinical Group	No. of cases	Proportion of "plus" diagnoses	Proportion of "minus" diagnoses	S.E.P.	50% zone	95% zone
Rorschach						
Psychoneurosis	40	1.00	.00	.00	—	—
Psychopathy	19	.10	.89	.07	.05 — .15	.00 — .24
Psychosis	26	.80	.19	.07	.75 — .85	.65 — .95
Organic Cases	16	.87	.12	.08	.81 — .93	.71 — 1.44
All Groups	101	.76	.23	.04	.73 — .79	.67 — .84
Multiphasic						
Psychoneurosis	42	.42	.57	.07	.37 — .48	.27 — .57
Psychopathy	20	.40	.60	.10	.32 — .47	.18 — .61
Psychosis	28	.53	.46	.09	.47 — .59	.35 — .72
All Groups	90	.45	.54	.05	.42 — .49	.35 — .55

Multiphasic diagnoses with more specific clinical groups. We found that the most successful diagnoses of both the Rorschach and Multiphasic were made in cases of schizophrenia and hysteria. Also the discrimination of organic cases of epilepsy and brain injury from hysterical epilepsy and posttraumatic neurosis was fairly good with the Rorschach but our samples are too few to present these results in statistical form.

TABLE IV.

SUCCESFUL DIAGNOSES IN SPECIFIC CLINICAL GROUPS

The Rorschach successes in the best diagnostic groups are:	
Schizophrenia	81%
Hysteria	87%
Organic Cases	80%
The Multiphasic successes in the best groups are:	
Schizophrenia	63%
Hysteria	63%

Since the tests were given only where they served the purpose of clarifying the diagnosis of a complex case, the results are not the most favorable that could be obtained if the tests were used as a routine instrument. However the figures are at the moment the best we have recorded in cases of differential diagnostic problems.

In evaluating these results, we see what careful psychologists emphasize themselves, that psychiatric interviewing and psychiatric judgment are in no way replaced by tests. The usefulness of the tests consists mainly in the following: 1) the test gives in problematic cases objective evidence and information of a type that other studies do not yield, 2) the tests help to clarify the psychological structure of the case, 3) in some instances the test brings forth completely new material and throws a new light on the case in a direction which was not previously considered.

From this last point of view those cases are particularly interesting in which the Rorschach test detects an underlying organic factor:

Case 7233-43: R.A.M., married male, age 32—Alcoholism and old brain injury. Brought to the hospital by the A.A.'s because of excessive drinking. For 15 years he had drunk more or less, but he had managed himself on a fair level generally and no serious personality disturbance or defect was indicated. During his childhood homelife he was subjected to rigorous discipline and was forced to work while his friends were at play. The adolescent developed many resentments towards his Ruthenian parents and had indulged in drinking with other boys before he attained maturity. In this instance the MM indicated pronounced schizophrenia. The World test report is that of a neurotic person. The Rorschach signs, reflected the possibility of organic brain damage besides psychoneurotic symptoms. These signs plus neurotic reactions, prompted us to carry out the procedure of encephalography. The roentgenographic evidence was that of generalized cortical atrophy. There was the additional history of probable head injury sustained in an auto accident 13 years previously.

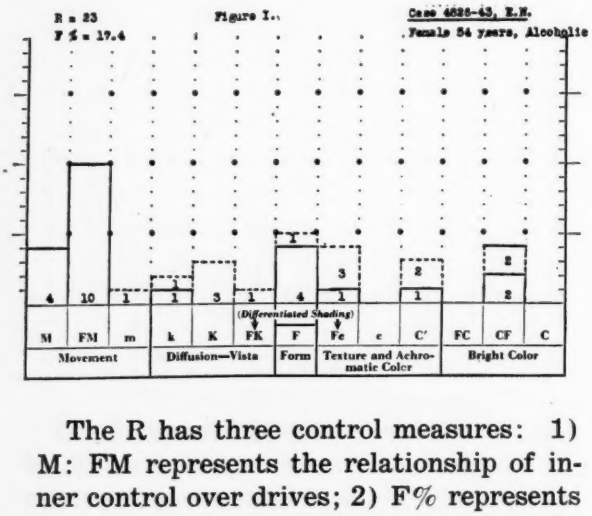
Case 6080-44: L. B., divorced female, age 33—Epilepsy with amnesia. This woman was admitted to the hospital in a state of total amnesia. There was history of severe convulsions in 1918 at the time of the "flu" epidemic. The patient stated that she "passed out" seven times during the last five years. Under sodium amytal narcosis, it was possible for the patient to give her name and address. The memory functions returned gradually during the first two weeks of hospitalization. The W-B revealed an I.Q. of 115, verbal score 109. The MM brought out an hysteria score of 64, aggressiveness 66, but result is not valid because of an 80 score for unanswered questions. The Rorschach demonstrated all signs of epilepsy. The findings of confabulation, perseveration, and definition of pictures exclude psychoneurosis, particularly with a high I.Q. The clinical diagnosis is epilepsy.

Case 1069-44: W.R.G., single male, age 41. This man was admitted to the hospital because of restlessness, nervousness and spells of impairment of consciousness.

The latter were poorly defined with prolonged prodromal periods with general weakness, pain in pit of stomach and numbness in legs. The neurological examination revealed a tremor in the extended tongue, moderate hyperactive tendon reflexes and slight difficulty in repeating test phrases. There was a history that the patient was kicked in the head and back by a horse when a child. The MM inquiry is invalid because of 80% unanswered questions but presents apart from that a distinct picture of hypochondriasis and hysteria. With a blind Rorschach, old brain injury is indicated. The Hartford Deterioration test yielded a C.Q. of 72, very suspicious for deterioration. W-B report: I.Q. 94, verbal score 97. Following the Rorschach report, an encephalograph was done and x-ray evidence of diffuse cerebral atrophy were obtained.

The following is a sample case in which we illustrate a brief Rorschach analysis.

Case 4826-43: E.N., female, age 54—Alcoholic. This Rorschach shows an excessive psychoneurosis (hysteria). The excessiveness lies in the fact that according to this Rorschach, this woman has completely lost all control over herself.



The R has three control measures: 1) M: FM represents the relationship of inner control over drives; 2) F% represents rational control through reasoning; 3) FC: CF represents outer control in behavior over the tendency to let oneself go. With normal adults M should be greater than FM, FC greater than CF, F% should be more than 20.

In this patient none of these three controls functions. She has gone entirely to pieces, so to speak. Her outer control is nil; her inner control is overpowered by drive; her rational control is insufficient.

The hysterical basis is indicated in the high Fc, excessive sensitivity. There are deep anxieties (k+K), dark forebodings (indicated by the C' and by the content of the R). She sees ogres, dark corners which represent to her a bad omen, "desperate fighting," "pathetic remains."

The question of whether this excessive lack of control has developed or has always existed in this person, cannot be answered at this present stage of R analysis. But we can, in studying her history, infer that this was a permanent, psychopathic trait.

E.N.'s history is the following: She comes from a family of farmers. Her father was a drinker too. All children of this family were highly intelligent, but they had to carve their careers for themselves. Of her two brothers, one is a doctor, another a pharmacist. She became a teacher. Though people called her attractive, she felt awkward with men. Felt always lonely in spite of many girl friends. Started drinking when a young teacher. Had no interests; did not know what to do with herself. Tasted liquor first at social occasions. Liked it. Went by herself into taverns. Would sit for hours by herself. At 35 engaged, but the man lied to her and she sent him away. Second time engaged right after that to a man who was much in love with her. Sex intercourse. She did not love him enough. She returned to drinking. He disapproved and broke the engagement. Then she went completely to pieces. Her mother lived four years with her. She tried to conceal her drinking. She tried to do Red Cross work, also took an orphan into her home but nothing held a sustained interest for her.

To all intents and purposes, we can call this a psychopathic personality. The R would indicate the basic defect in this person in the absence of all controls.

The Rorschach is not yet satisfying in cases of psychopathic personalities. The Rorschach usually shows them as excessive psychoneurotics. Here we need more elaboration as to the significance of sign patterns. Such a sample is the following:

Case 1739-44: MM., age 23, a quarter Indian girl admitted with the charge of transvestitism for a period of approximately 8 years and "marriage" to another woman for the last 3 years. It was learned also that this woman had indulged in homosexual practices on some occasions and heterosexual on others. At one time she was known to have been under the influence of marihuana. On another occasion she was associated with others in stealing an automobile. Prostitution was admitted by her. She had traveled from city to city dressed as a man. Sometimes she would change to female attire and act as a call girl for local procurers and at one time she was alleged to be implicated in transmitting gonorrhea to an 8 year old girl. Her statements in the hospital often proved to be unreliable. The W-B Intelligence Test yielded an I.Q. of 95 with a verbal score of 91. The Multiphasic Personality Inventory revealed a high masculinity score of 78, a paranoia score of 78 and a schizophrenia score of 70. The Rorschach yielded responses indicating an obsessive-compulsive psychoneurosis, a result we obtain as a rule in psychopathic personalities without continued psychosis.

Interesting from the point of view of the psychological personality structure which the test reveals, are some of these Rorschach test records which we obtained with schizophrenics before and after insulin shock treatment. The following is an illustration:

Case 4971-43: M. H., a married female, 38 years of age—Paranoid schizophrenia. M.H., after a very unhappy childhood, married a man whom she loved. When he began to drink she suffered deeply because she wanted a nice home and a man whom she could respect. She separated from him several times, but he always came back and swore he would quit drinking, but each time he let her down. Finally she broke. She could stand it no longer.

During one of her husband's lapses she decided to go away and forget him. She went out with another man with whom she had sex intercourse. Her guilt feelings afterwards led her to imagine that she was infected and that she, through her kisses, had transmitted gonorrhea to her children. No amount of medical reassurance that she and her children were well could convince her. In the meantime her husband had come back and really quit drinking, for he loved her and felt that he was responsible for her breakdown but she did not believe him and lost her emotional control. She lay on her bed and cried all day and finally was brought to the hospital.

The Rorschach of M.H. shows an interesting symbolic representation of her suffering:

I. Card—Calls it a "butterfly trying to pull itself together after an injury."

II. Card—"A building in the far-off distance, foreign lands, canal leading to this space, sort of a lake there, fire at both ends to get through."

III. Card—"Angel standing, looking from a distance."

After shock treatment, patient repeated most of the earlier interpretations, but with changed connotations. Through adding a few and leaving out other responses, the total picture was somewhat improved.

Now patient does not speak anymore of an "injured" animal on Card I. On Card II the fire becomes a sunset. On Card III the angel becomes a dancing girl with a costume that has wings.

In summarizing our experiences with the Rorschach and the Multiphasic Tests, we can say that we get considerable information and help from them, but that in their present state of development, they still have decided weaknesses.

The chief weaknesses of the Rorschach Test are: 1) It is still complicated in admin-

istration and interpretation. Many sign patterns overlap. It can be hoped that a simplification as well as an objectivation of the procedure will be gradually worked out. 2) While certain types of cases are well analyzed and diagnosed, others are not as clear. We do not get much aid in the clarification of psychopathic sex cases. Simple paranoic states not regarded as schizophrenia and the affective psychoses are not yet adequately defined in Rorschach terms.

We can say positively that the Rorschach helps a great deal to discriminate psychosis in general from psychoneurosis, especially with schizoid types, that it detects organic defects and that it clarifies the personality structure.

The main weaknesses of the Multiphasic Test lie in the following facts: 1) Its range of successful diagnosis is limited. 2) The discrimination of psychosis and psychoneurosis is not yet adequately ascertained to be reliable. 3) It does not give much beyond the clinical definition. We are not enlightened about the whole structure of the case as we are by a Rorschach analysis.

Its advantages are: 1) Its easy administration and scoring. 2) The absolute objectivity of its results. 3) The directly resulting clinical definition.

The complexities of the problems of interpretation of results presented by both tests confine the interpretative use in diagnosis to qualified psychiatrists and psychologists.

The Murray Thematic Apperception Test and the Buhler-Kelly World Test do not claim, as the first two tests do, to result in a clinical diagnosis of a case. Their purpose and possibilities are more limited in scope. Our experiences with the Murray Apperception Test are that while it is helpful in the course of a longer treatment of a case, it is too lengthy and too unspecific a procedure to be as useful in the diagnosis as the other tests. The Buhler-Kelly World Test was originally planned by Charlotte Buhler merely as a children's test. But experiments with adults seem encouraging enough to plan a new edition of this test for adults. Our present findings are to be considered only as exploratory.

The World Test is a projective technique. It consists of a box with miniature wooden toys which represent houses, trees, fences, cars, people, animals, etc. There are in the present box 150 items.[1] The edition for adults will be larger and of other material. The subject is asked to construct whatever he likes with these things. There is no further instruction, only some conversation so as to ascertain what the subject has in mind with his construction. After the subject has built what we call his "World," we score and interpret the construction according to items used and omitted and to constructive arrangements.

The main characteristics, established with children's constructions, as being indicative of maladjustments in a person's attitude towards life are the following:

1) *Aggressivenes.* Worlds in which open aggressiveness is displayed. There are fights, house-breaking, fires, wild animals eat people or are put in places where they must be dangerous. (A—World.)

2) *Unpopulated Worlds.* People are omitted, while otherwise the World seems complete. This sign is found in subjects which avoid the open aggression of the first type, but which have a concealed hostility against or fear of people. (UP—World.)

3) *Empty Worlds.* They are Worlds in which very few (less than 50) items are used. This may be due either to lack of imagination (therefore we have the largest number of E—Worlds in mentally deficient) or else to lack of interest or to an inner emptiness. (E—World.)

4) *Closed Worlds.* These are Worlds in which large parts or the whole are surrounded by fences. This sign is indicative of fear or hostility. Very young children of 4 or 5 years usually close off their Worlds. With them the fencing-in means anxieties. (C—World.)

5) *Disorganized Worlds.* These are the Worlds in which the arrangement of items seems to be unplanned or poorly planned. This sign indicates inner confusion. C and D Worlds have a high negative intercorrelation, namely—80, meaning they express opposite trends and feelings in a person. (D—World.)

6) *Rows or Rigid Worlds.* These are Worlds in which things that usually do not appear in rigid arrangement are lined up in rows; e.g. people or animals. Cars or trees or soldiers may, of course, under circumstances be lined up. But if the whole World shows only rigid arrangement like one house, one tree, one tree in repetitions, this is scored as R—sign. The R—sign indicates inner inhibitions and deep-seated conflicts. (R—World.)

With 68 adult Worlds that we have so far, we cannot consider any results as definite yet, nor did it seem worthwhile to put them into statistical terms. But if we make a tentative evaluation of the percentage distribution of our case records, we may say the following:

The mentally deficient and the alcoholics have most of all empty Worlds which would indicate an "empty" state of mind. Both groups avoid closed and unpopulated Worlds. They want to be with people, but the mentally deficient shows aggression towards the same people with whom he wants to be. The mentally deficient shows the greatest number of symptomatic signs per individual—3.00.

Comparing the mentally retarded adults with mentally retarded children we have a good corroboration of these findings. The mentally defective children have also the largest number of signs per individual (2.40). They have a larger number of aggression signs than the neurotic children. They have the emptiest Worlds, but they avoid closed Worlds. They also have as few rigid Worlds as the adult mentally defective, but they have more confused Worlds. The confusion of these children has turned in the adults to more aggression.

The sex problem cases in our adult group is characterized by a number of interesting facts. Their Worlds are unpopulated while they avoid open aggression; their Worlds are rigid and closed, but not disorganized. In the most pronounced sex problem cases among our children, we found also a high correlation with unpopulated, closed, empty Worlds, no correlation with open aggression nor with disorganized Worlds.

The psychoneurotic adult group is a mixed group which obscures the issue. We find mostly disorganized Worlds in this group due to the large number of hysterical patients which we have here. We find with children a correlation of hysteria with disorganized but populated Worlds, while the obsessive—compulsive cases make rigid and closed constructions and tend more to have unsocial Worlds. These facts correspond closely to Rorschach findings.

The psychopaths in our adult material have mainly closed Worlds indicating their fears and their warding-oc attitude.

The psychotic and the organic cases are similar in that both produce mainly unorganized Worlds. The majority do not avoid people although they show much aggressiveness. The comparative analysis of these signs and of the Rorschach signs of these two clinical groups reveals corresponding trends.

Summary

Review of experiences with certain psychologic test procedure employed in a series of selected patients cared for in a municipal psychiatric hospital division is submitted and correlations with clinical diagnoses are noted.

The advantages and weaknesses of the Rorschach and Minnesota Multiphasic tests with reference to clinical diagnosis are discussed.

Some observations on the Murray Thematic Apperception and Buhler-Kelly World tests are briefly reported.

The broader range of information gained through the use of so-called personality tests can serve the clinician advantageously. However, competent interpretation is imperative to separate the clearly ascertained from the doubtful results.

REFERENCE

1. Box and Manual are available from the Psychological Corporation, New York. Monograph by C. Buhler and G. Kelly in preparation.

Neuropsychiatric Residuals*

SIDNEY I. SCHWAB, M.D.
St. Louis, Missouri

The term residual in neuropsychiatric situations means a great deal more and is different than in any medical or surgical condition. Residual is thought to be something that is left behind, something remaining after an illness whatever its character and whatever therapeutic efforts has been carried out. A good definition of the residual in neuropsychiatry would be any internal after effect of an experience or activity which influences later behavior.

Speaking generally a residual is inert, passive, inactive and static. It has little or no capacity to institute new activity of and by itself. Consider the simple example of an abdominal scar following an appendectomy. This is an anatomical residual which in the overwhelming majority of instances presents no symptomatic evidence of its presence. It is an inert, static residual which apart from its cosmetic significance is usually merely an indication that an abdominal operation has been done or at least that an incision in the abdominal wall has been made. Sometimes this residual becomes the center or focus of neurotic interest or preoccupation, and there may arise a complex of symptoms which infiltrates the personality, distorts many of its mechanisms and may and often does produce a neuropsychiatric clinical picture. If this may occur from so simple and apparently innocuous healing residual of an abdominal incision, how much more complex and how much more penetrative is the residual left after a war neurosis or a neuropsychiatric reaction on a war casualty. The very essence of a neurosis is in this latter instance a primary focal impact and the development from the residual to something more devastating requires only the utilization of the original material. The tangibility of the scar is sufficient of itself and needs no indirect piece of psychological mechanism to keep it in status quo. The neuropsychiatric residual is part and substance of the original trauma and is therefore a continuation, in what diverse forms it may take, of what happened in the first instance or in incidents previous to military duty.

A neuropsychiatric residual contains energizing potentials. It is never inert, never passive, never static. It remains always a possible reactivating center, the springing into activity of which is conditioned by the inherent neurotic tendencies of the individual and the kind and variety of the original impact and other factors touching his personality and environment.

I propose to explore the neuropsychiatric possibilities of the soldier returned to civilian life. There are three groups of soldier objects with which this paper will be concerned. First, the soldier who has completed his service whether in combat conditions or not, whether in this country or overseas, who has shown in service no evidence of neuropsychiatric disorders, but who develops them under civilian conditions. Second, the soldier who has developed neuropsychiatric symptoms in service and has recovered either completely so that he has returned to his former military activities or partially so that he could carry out activities away from the conflict area and then lapses into his neurosis under a civilian setup. Third, the soldier who develops neuropsychiatric symptoms and is returned to civilian life a chronic, uncured and often incurable neuropsychiatric personality. The impact of the return to life in this country upon them becomes the exploratory area in which this paper will roam.

The problem presents itself as a definite sharply etched portion of war casualties and should be approached with frankness, honesty and a critical weighing of evidence. Whatever theories as to causation of the war neuroses and other neuropsychiatric conditions are selected, the essential and

* Read at a meeting of the Institute of Medicine, Chicago, November 1st, 1944.

fundamental problem remains—the soldier himself.

The individual soldier returns to a chosen or a different or the same environment as the one from which he came and in this he must play out his part in the activities of living. The problem in this way is narrowed in lateral scope but not in depth. It is obvious that a study of the varied and various elements in both the individual and his environment should furnish ideas which are explanatory and upon which plans for handling, directing, rehabilitating and reeducating can be built.

This paper is not concerned with treatment as such and I shall not touch on this important aspect of the question, except to suggest that plans looking to this end be implemented and broadened. The handling is a mass problem, the understanding is an individual one. This stands out no matter how much effort is made to dodge it. It constantly comes to the fore and therein lies much of the perplexity, the one—the unit, and the mass as opposed. Considered as a mass problem certain things are emphasized and present themselves as products or effects of mass organization leading to generalities which in their turn frequently become phrases, cliches, and symbols. Such things as "coming back to a new world," the concept of "democracy as world wide," the "disappearance of war," the end of "racial or religious inequality," the "American way of life," etc. In an individual with a war born psychiatric hang-over there is little evidence that such generalities play anything more than an insignificant role in either the production or the continuation of the neuropsychiatric situation. They cannot account for either his physical, psychological or his psycho-somatic disabilities. If the symptoms presented belong to the group of disappointments, frustrations, discontent, anxieties, fears, emotional instability, etc., the cause must be searched for in a limited not in a multiple series of factors. They are to be found within the individual himself and his own personal and limited surroundings. The impact of these larger and orbital concepts do not reach down to the personality levels where the neuropsychiatric mechanisms lie and which when activated produce the neuroses, the psychoses or other neuropsychiatric disorders. I do not believe that any important evidence exists in the literature or in personal experience whereby it is possible to trace either as causation or as contributing causes this kind of generalization. The neuroses have little to do with grandiose, philosophical or economic concepts which are publicized during the war.

Neuropsychiatric disorders which we are considering are the results of individual experiences in response to various types of traumata associated with varied military activities, taking place either in active combat or under combat conditions or combat atmosphere. As soon as a soldier is inducted into service and puts on a uniform he belongs psychologically in the areas of combat. Preceding this, is an area which may be thought of as anticipatory and from which many of the neurotic experiences associated with actual army experience may derive.

I have tried to survey briefly the setting of the problem and to show the basic weakness and falsity of what may be described as the propaganda as against the essential roots of the neuropsychiatric residuals of this war. The question becomes narrowed as we look upon it with an exploratory eye. Some of the questions demanding answers are these:

What in the first place is within the individual soldier which tends under certain conditions to produce the neuropsychiatric reactions which make him temporarily or intermittently or permanently a neuropsychiatric casualty?

What is in such an individual which when he is through with his military experience keeps that personality enclosed in this neuropsychiatric frame work after the war is over and he returns to a civilian status, similar or different from his previous environment? Does he find in this civilian environment a traumatism identical to that which in the war caused him to be a psychiatric casualty and in peace produces a similar result? Why does he find it necessary under such conditions to respond in terms of a solution with symptom organization of the same kind that were present during his

acute response in terms of neurotic symptoms? Are these then to be considered the neuropsychiatric residuals which we are now concerned with?

I am not thinking of clinical pictures, of diagnostic rituals of classification, of percentages, of neurotic inheritance and all the rest of the confusing data which gather around a problem of this nature. I am attempting to find an explanation for the origins, continuations, fluctuations and permanent status of neuropsychiatric reactions in conflict and in non-conflict situations in war and peace, in military and civilian environments. Even a partial answer to these questions is of value. A complete one seems impossible under the conditions now existing in the limitations of our knowledge of the fundamental facts about that part of the personality controlled by the nervous system and dependent upon it to carry out the performance necessary for its continuance and its stability.

As every experience leaves behind it a residual which may or may not be reflected in conduct, so the residual of a neuropsychiatric experience leaves a potentional source of influence which is able to direct and control the individual towards or away from desirable goals. This process is often so distorted and confused that its end product may result and often does in a way of living and thinking entirely at variance with the usual pattern conformity. The neuropsychiatric residual then becomes the usual and ordinary personality pattern and the so-called residual is the psychiatric frame work in which the individual existence is played out.

One line of interpretation of the experiences in neuropsychiatric residuals is a comparison of psychiatric incidents of previous wars—the Revolutionary War, the Civil War and World War I—with those of the present one. Much of the material from which such comparison can be made is difficult of access and that which is available is unreliable because the neuropsychiatric infiltration into general medical aspects of the earlier wars was not nearly so emphasized as in the first world war or in the present conflict. Much material, reported in semi-popular fashion, has been collected by Dixon Wecter in his book, "When Johnny Comes Marching Home." This work contains a wealth of information derived from accredited sources and is well documented. I recommend its reading to throw a great deal of light upon the question of the neuropsychiatric residuals in the three previous wars with some mention of the returning soldier of our current conflict.

There are many factors in the present war which must be deliberately surveyed and their importance considered as they weigh in favor of or against the lessening or disappearance of the neuropsychiatric residual. Some reference to and comparison with the first world war are necessary in order to lay the ground-work for a prophetic estimate of the weight and burden of the neuropsychiatric load. The first thing that strikes the examiner is that the present army is immensely larger—more than double that of World War I. It is a much younger army, the average age being 28. In the first world war the draft age was 20, now it is 18 with the average age of induction well below 25. Eighty percent of this army is under 30, the majority unmarried. It is a younger army than the United States has ever sent into the field before. Picked for its adaptability to war, by the same tests its veterans ought to prove more adaptable to peace. Thirty-three percent came straight from school with no work experience, 21% had been out of school one year or less, 15% from one to two years. Only 23% had been away from school more than three years. It is a better educated army than Pershing commanded. In those days 5% were college men and 4% high school graduates; 11% had reached high school and 80% not gone beyond grade school. Today the contrast is startling. No less than 14% are college men and 25% high school graduates; 28% left high school before graduating and 33% stopped in grammar school.

Particularly remarkable is the technical skill of this army. Today, according to General Somervell 68% of our armed forces are technically trained. To service and fly the more than one hundred thousand planes made last year, two million men are needed

who are familiar with navigation, radio, mechanics, intricate flight instruments, radar and teletype. They have been drawn from the farms and factories, from schools and corner drug stores. In his uniform the soldier is learning more of civil usefulness than soldiers ever did before.

It is of great importance that such a large proportion of our soldiers have the fundamentals and to a large extent a thorough training, fitting them for civilian activities.

Of equal importance is the fact that this army is more thoroughly screened psychiatrically. So much better than in World War I that there is no comparison. Furthermore it is an army in which the military heads have not resented psychiatric guidance either at the induction centers or in hospitals or where actual fighting is taking place. It can readily be seen that the experiences of the first war have been taken to heart. The fruition of Thomas Salmon's historical contributions can be discerned and traced in the remarkable developments of neuropsychiatric efforts in all divisions of the army and on every fighting front. The preventive efforts at training centers, the prompt and effective methods at advanced areas in relation to the acute neuroses, the emphasis on rapid transportation of those who do not respond to treatment to rear reception centers and back further when necessary fulfil a need that was known and felt in the first world war but could not be carried out completely. The changed attitude of the medical officer in regard to neuroses is so striking that it is often hard to believe. The neuroses are now being more and more thought of as a battle casualty and not something unnecessary or a mark of inherent weakness in a soldier which from a military point of view ought not to be there.

There are, of course, some defects in the present neuropsychiatric set up and criticism might well be directed against them, but by and large arrangements are so much more efficient, so much broader and so much more constructive in policy and aims that nothing said against it can detract from its overwhelming superiority over anything thought possible in 1918.

The embryo effort initiated by Dr. Salmon and his group of neuropsychiatrists has blossomed into an effective force, infiltrating every corner of military medical activity. Any attempt to forecast the neuropsychiatric load of the returning soldier must give this fact due weight. The present American army is better trained and equipped and in better physical condition. As a combat machine it is better fitted to meet the impact of conflict. All these things bear upon: (1) The number of neurotic disabilities, (2) the number of neurotic casualties returned to active service of some sort, (3) the resiliency of the average soldier to overcome an acute neurotic disability and (4) the well conceived and thought out plans for handling the more chronic cases and those stubbornly resistant to therapeutic efforts.

I stop to mention one or two other items of importance without venturing to estimate their weight. On the whole this is a war of movement in contrast to stabilized trench warfare; a mechanized war and so far as the American army is concerned it has been a victorious war in tangible successes. This war is not for us an ideological war, but a struggle to defend ourselves against a treacherous attack and then to global involvement.

The key problem involved in the returning soldier subjected to a conflct neurosis or psychosis while engaged in any of the activities incident to warfare may be stated this way. It is to survey, explore and discover the methods by which a war born residual or a war born neurotic status may be prevented from continuing when the soldier runs head-on into the conflicts present in civilian life. The pattern has already been laid down by his war experience, the selective pathways favorable to the production of a neurosis have been activated and there is in him a repetitive mechanism that when given a chance can reproduce the original neurotic picture in some if not in all of its symptoms. It is also possible that new ones may be added. Whether the neuroses have their chief sources of conflict in the ego organization or whether in the more deeply seated inherent instincts of self preservation, integrity of the personality or whether there are many combinations of these and

other mechanisms important—certainly not as contrasted to the most significant aspect of the problem. This is to prevent the transfer of the mechanism that produced a neurotic reaction in the first place from becoming the stabilized pattern for solving the problems incidental to civilian existence through a neurosis. The ego conflict is present in all phases of non-military life. The deeper instinctive conflicts are not as actively present in ordinary civilian life. There would seem then to be a much better chance for permanent adjustment on a non-neurotic formula in civilian than in military life. The frequent factors so evident in the first war were largely due to the inexperience, lack of preparation and, I am sorry to admit, the profound distrust in the minds of many, who had the task of taking care of the returned soldier, in the reality and validity of the war born neurotic reactions. The files and records of the Veterans Administration testify to this.

The medical personnel and consulting staff were aware of the setting of the problem, but they were caught and enmeshed in the framework of the solution, emphasized and featured by congressional acts and this was compensation. By this means the war-born neuropsychiatric residuals were quickly transferred to the civilian type without much resistance. Now this statement does not imply that compensation for handicapping effects of war should be done away with. Permanent and partial disabilities should of course be given compensation in whatever amounts may be necessary, but in the case of the neuropsychiatric disability, compensation beyond a reasonable and planned assistance, and temporary in nature, to enable the adjustment mechanism to work itself out is hazardous aid. Productive, satisfactory and suitable activity is the most completely satisfactory therapy which can be devised. Compensation as the sole solution is an obstacle that blocks the pathway to good curative results. Allowing for all the exceptions in individual cases which do not fit this pattern and for whom compensation may be the only feasible outlet, the fact remains that the fate of the returning soldier as far as the neuropsychiatric residual is concerned, depends largely on how much or how little emphasis is placed on that as the sole issue. Compensation should be designed to assist readjustment not to reward disability.

Obviously there are many other causes which militate for or against rehabilitation of the soldier returned with a neuropsychiatric residual. The promptness of demobilization is a factor for that soldier who remained in service. There are many plans to this end and I see no reason why they should not be successful: Job opportunities, job preference, training, education, direct and incisive therapeutic efforts toward the removal of psychiatric symptoms. The foundations for this have been built upon the experiences in the active area of the war. Those things and those conditions which make for a smooth transference from military to civilian life in the case of a soldier without a neuropsychiatric residual would be effective in the soldier with one. The difficult problem is of course in those who have already returned with a stubborn, resisting, crystallized and progressive neurospychiatric complex. These represent on the whole defective individuals alike in war and peace. In spite of screening and the newly awakened awareness of this problem, a certain number have slipped through, completed training and are in the service overseas. I suppose this will always be the case in an army recruited from the total civilian population. These do not really belong to the residual group in the meaning implied in this paper. They are the load which civilian life at our cultural level has with it always and which war will accentuate.

Since this paper has attempted a survey of a problem it might well end with a prophesy. From all the data and information that I have been able to assemble and from a study of the improved technique developed and because of the intelligent and informed attitude toward neuropsychiatric problems, it is my opinion that the residual effects of war experiences on the nervous system of the returned soldier and the civilian burden by reason of neuropsychiatric disabilities will be much less than after World War I.

Porphyria in Relation to Nervous and Mental Diseases*

LOREN WILLIAM AVERY, M.D.
Chicago, Illinois

Of all the pigments, found in health or disease, those of the porphyrin group are probably the least understood. Scherer, more than one hundred years ago, produced a pigment by the action of strong sulphuric acid on hemoglobin. Later studies on this pigment by Hoppe-Seyler[1] and others revealed it to have specific characteristics, to show a strong fluorescence under ultra-light and to be capable of sensitizing the skin to sunlight. This pigment was designated as hematoporphyrin. During the last quarter of the nineteenth century reports appeared discussing the excretion of this pigment in various states. The earlier conception was that the excretion of the pigment indicated a breakdown of hemoglobin.

Our knowledge of the porphyrins is based on a scattered though large literature concerned with the distribution of the pigments in plant and animal cells, the studies as to its chemical structure and forms, and the clinical and pathological observations of porphyrinurea. There have been something over two hundred and fifty cases of clinical porphyrinurea reported. The number of pathological reports is, however, very meager. Mason *et al*,[2] and Nesbit[3] have given an adequate review of this literature.

The salient features of our knowledge of the porphyrins might be summarized as follows:

1—The pigment as produced by Scherer is a purely artificial product, does not normally appear in the body and is never excreted in disease.

2—The porphyrins are complex chemical compounds, made up of pyrrol rings with a varied number of carboxyl groups. They occur in isomeric series.

3—The porphyrins are found in the body both in their pure form and as metallic compounds. The latter are present in muscles, in hemoglobin and in cytochrome. Similar compounds are found in chlorophyll. A recent and most significant investigation by Kluver[4] indicates that in man and many other mammals, porphyrin in its pure state is found in only one organ, namely the central nervous system. Furthermore its distribution in the central nervous system is confined to the white matter of the brain, the spinal cord and the cranial nerves, except those whose function is chiefly motor. Porphyrin is normally excreted in the urine and stool, uroporphyrin in the former and coproporphyrin in the latter. There concentration in normal urine is very small, being about 5 to 10 micrograms percent.

4—In disease excessive amounts of porphyrin are excreted in the urine. This imparts to the urine the characteristic burgundy red color, typical of porphyrinurea. Uroporphyrin and coproporphyrin are both found in the urine. They are usually excreted in the form of the zinc compound. It is also known that a colorless form of porphyrin may be excreted, usually termed porphyobilinogen. A urine containing this colorless form, will turn to the characteristic color upon standing in the sunlight. A useful test for porphyobilinogen has been devised by Watson and Schwartz[5] and should be used in all suspected cases. Porphyrinurea has been observed in cases of liver disease, hemolytic jaundice and lead intoxication, as well as in the cases of so-called porphyria.

5—The functions of porphyrin are not understood. Their presence in hemoglobin and cytochrome suggest that they play a role in the respiratory functions of the cells. They are also found in the developing red blood cell, and are believed to play a part in the process of erythropoiesis. This conception is opposite to the original and erroneous one, that porphyrin was a product of degeneration of the erythrocyte.

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6—The porphyrins are known to have powerful pharmacological properties. They will produce light sensitization, which may result in light stroke, hydroa aestivalae, pigmentation ulceration and extensive scarring of the skin. In dilute concentrations they produce spasm of smooth muscles. In the intestine this spasm may be so intense that apropin will not reverse it. They have been known to produce spasm of blood vessels and to produce hypertension. Spasm of the retinal vessels have been observed. The porphyrins are believed to be responsible for the severe neuropathies observed in adult prophyria. This causal relationship is, however, not experimentally established. There is a report of one case,[6] in which a polyneuropathy developed during the administration of hematoporphyrin (photodyne) for a mental depression. The porphyrins are also thought to have a stimulating influence on mental and somatic functions.

7—The clinical syndrome known as porphyria has a varied picture and has in the past been classified as follows: congenital, toxic, acute idiopathic and chronic porphyria. A review of the reported cases will indicate that there is a strong familial tendency and that it may run either an acute or chronic course. There are two main types. The congenital type, which is characterized by cutaneous manifestations and occurs chiefly in males. The urine contains large quantities of both coproporphyrin and uroporphyrin I (the Roman numeral referring to the isomeric position). The second type is the adult form, occurring chiefly in woman, in the third to fifth decade. It is characterized by severe abdominal manifestations and is frequently associated with the polyneuropathic form of Landry's paralysis. In this form smaller amounts of uroporphyrin III and coproporphyrin are excreted.

There is no complete agreement as to the toxic forms of porphyrinurea. It seems probable that those cases which were ascribed to intoxication from trinol or sulphanol, were in reality cases of latent porphyria which were brought to the acute stage by the drug. In this manner these and other drugs stand in the same relationship to porphyria as amidopyrine is related to agranulocytosis. The so-called acute toxic porphyria differs in no way from the acute stages of adult porphyria. It has been suggested that two forms of the disorder be termed, the congenital cutaneous type, and adult abdominal, nervous form.

Case 1—S.P., a 63 year old housewife, since the age of 42 had suffered six attacks of anxiety, disorientation and stupor, during the last and fatal one she was observed at Presbyterian Hospital. The earlier attacks lasted from a few days to several months; the final illness extended intermittently over a period of six months. In the periods between these episodes she was mentally clear, but suffered from frequent severe headaches, with vomiting. The history also discloses that at times her speech was slurred and indistinct even during the periods when she was well. During her free intervals she was active, even tending to restlessness and was always a persistent worker. She had known that for years her blood pressure was elevated and also that sugar was present in her urine at times.

The episodes of stupor observed in the hospital usually began with headache, projectile vomiting, anxiety and confusion followed by stupor. Fever up to 104° F. was frequent during such episodes. The duration of the attacks varied and her condition changed with spectacular abruptness. On one day she would appear to be in extremis, with almost imperceptible pulse and marked cynosis; on the following day she would be mentally clear and appear to be in good physical condition. Convulsions occurred during the final days of the illness.

The neurological findings were insignificant. There were no distinct motor, sensory or reflex changes. Transient weakness of both external recti was seen. The optic fundi were normal. The face was a deep red and the same discoloration was observed in the gums.

Upon entrance she showed a leukocytosis of 14,000. During her observation she developed a typical agranulocytosis, with a leukopenia as low as 1200. Sometimes urine contained sugar, and only at times was the

blood sugar high. The urine was for the most part straw colored but on a few occasions it was a deep burgundy and contained porphyrin. The spinal fluid pressure was 110 mm. It was xanthochromic, contained 9 cells per cmm., strongly positive globulin reaction, 1200 mgms.% of total protein and 150 mgms.% sugar. The Wasserman was negative and the gold curve was slightly positive, extending far to the right.

The patient died in hyperthermia. Post-mortem examination was refused.

Episodes of confusion, stupor and coma are not infrequently seen in porphyria. While there is no data concerning the occurrence of porphyrinuria previous to the last illness, it is probable that this patient suffered from a porphyria for many years and that the acute episodes were exacerabations of the disease. The spinal fluid findings are unusual. They suggest that the patient may have suffered from a Guillian-Barre syndrome. Beilin[7] reported an instance of porphyria with Landry's paralysis, where the spinal fluid was xanthochromic.

Case 2—J. G., a 40-year-old white male, entered Presbyterian Hospital in June, 1939. Two months previously the family noticed a marked change in his personality. He became irritable, quarrelsome, and lost all interest in his family. At about the same time he suffered from an intense headache which spontaneously disappeared after one week. One month before admission he began to complain of very severe abdominal cramps as well as pain in the chest. The pain was so severe that he would writhe on the floor. Fluoroscopic examination at that time revealed an obstruction of the intestine which, however, was relieved without operation. He returned to work regularly, until ten days before he came under observation. At that time he developed pain, numbness and weakness of the hands and feet, which progressed to the arms and legs. Upon admission to the hospital he was able to make only slight movements of the hands. A marked embarrassment of respiration necessitated the immediate use of the respirator.

Examination revealed a flaccid paralysis of all extremities as well as a paralysis of respiration. The deep tendon reflexes were lost as were the abdominal and cremasteric. Sensory examination was impossible because of the confused and delirious state of the patient. A previous sensory study, two days before entrance, showed considerable hypasthesia over the arms and legs. The urine was a deep red and contained porphyrin. The blood pressure was 150/94. The temperature never rose above 100.4° F. There was a leukocytosis of 21,000. The patient died thirty-nine hours after entrance.

With the exception of marked pigmentation, post-mortem findings referable to the viscera were those of passive congestion. The nervous structures were examined by Drs. Alfred Stanton and Joseph Luhan. Minimal, though distinct degenerative changes were found in the anterior horn cells as well as in those of the sympathetic chain ganglia. The peripheral nerves presented the typical changes of a polyneuropathy. The anatomical findings in this case corresponded to those described by Mason *et al.*[2] The pathological reports of the changes in the nervous system in cases of porphyria indicate considerable variation. In some reports no changes were described in the anterior horn cells and in others no changes were reported in the peripheral nerves, even in the instances were death was due to Landry's ascending paralysis. It is known that the changes in the peripheral nerves are spotty in distribution and consist chiefly of a demyelinization. Unless sections from many places along the nerve are taken it might be possible for the characteristic changes to escape detection.

This case is a classical example of the adult abdominal nervous form of porphyria. Practically all of the characteristic features are present. These are the severe intestinal colic, the polyneuropathy, relative hypertension, the leukocytosis, the porphyrinuria, delirium, and coma. Fever was not a prominent feature as is frequently the case.

Three additional cases came under observation. One was a 29 year old colored woman, who was observed in Cook County Hospital. The history presented the usual

perplexing problem of severe intractable pain in the abdomen for which no basis could be found. The presence of fever and leukocytosis led to the belief that a septic focus was the basis for the symptoms. However, she was found to have a porphyrinuria and died of a classical Landry's ascending paralysis. Post-mortem examination was made by Drs. Stanton and Luhan, the findings were in every respect similar to those discussed in case 2.

Another instance was seen in Presbyterian Hospital during the fall of 1944. This was a 38 year old man, under management for pulmonary tuberculosis. He presented the typical findings of a recovering polyneuropathy. This case record was obtained through the courtesy of Dr. Henry Ricketts of Billings Hospital of the University of Chicago, who diagnosed and treated the porphyria. This patient illustrates the intermittent course during which there were repeated attacks of coma and protracted delirium. What is more surprising was the occurrence and recovery from two severe episodes of severe polyneuropathy with inability to speak, swallow or control his sphincters. Because of severe intractable abdominal pain, an exploratory operation had been performed and the spasm of the colon had been seen.

A final case is mentioned through the courtesy of Drs. Eugene Traut and Chester Fouser of this city. They presented to me the problem of a 53 year old man who was known to have syphilis. In Dec. 1943 he suffered from abdominal pain as well as pain in the back and down the legs. Four to six weeks later he developed the signs and symptoms of a Landry's syndrome. They were requested to examine the urine for porphyrin. The urine never showed the characteristic color, and all methods usually employed to obtain the typical color by oxidation failed to demonstrate porphyrin. However, when examined by the fluorescent method, there was reported to be 100 mgms.% of porphyrin in the urine. This figure would be about 10 to 20 times the normal content. This finding is interesting as it points out the possibility that one might have the clinical picture of porphyrin even though the urine does not contain sufficient porphyrin to show the typical color or spectroscopic picture. This may be the explanation of the cases of porphyria without porphyrinurea.

No treatment is available for the condition. It is wise to warn against the use of those drugs, such as trional, sulphanol or others which are known to precipitate the porphyrinuria. All but two of the above cases received sulpha drugs. However, there appears to be no evidence that it had either a deliterious or a favorable influence on the disorder. Regardless of this it should probably be avoided. Calcium salts have been used as have, needless to say, all the vitamins. Sunlight should be avoided, even though light sensitiveness in adult cases is rare.

A consideration of the symptoms of adult porphyria indicates that they are of two categories. The abdominal symptoms and the hypertension are referable to the effect of the porphyrin on smooth muscle. The reported changes in the sympathetic chain ganglia would seem to be pertinent with these symptoms. The neurological symptoms appear to be confined to the cerebral cortex, the peripheral nerves and to many of the cranial nerves, especially the 3rd, 4th, 6th, 7th, 9th, 10th and 12th. It is interesting that the symptoms of porphyria are referable structures which, according to Kluver, normally contain no porphyrin.

The possibility of porphyria should be considered in all cases of intractable and unexplainable abdominal pain, as well as in all cases of severe polyneuropathy, especially of the ascending types. It should also be considered in cases of delirium, stupor and coma for which no basis can be found. Its implications from a speculative standpoint are wide. Some thought might be given to the role of porphyrin as a basis for many neuroses and some psychoses. Before adequate data on this can be obtained much investigation must be conducted as well as the development of new methods of detection and measurement of porphyrin in the body and excreta.

In view of our present knowledge of porphyria and the infrequency with which it

occurs, its importance is not readily appreciated. It should be pointed out that at present the diagnosis of the disorder depends upon the presence of porphyrinurea. A study of the clinical cases will indicate that the patients had been ill for long periods before the porphyrin was detected in the urine. It is also apparent that by the time porphyrin was detected in the urine the clinical condition was very serious. It is suggested that the disease may be present for a long time before porphyrinurea occurs and that the porphyrinurea represents a late manifestation of the disorder.

Summary

The clinical manifestations of the adult nervous abdominal type of porphyria have been discussed and examples cited.

Porphyria should be suspected in all cases of severe ascending polyneuropathy and in all cases of stupor and coma of unexplained origin.

It seems a remarkable inference that the presence of porphyrinurea occurs as a late manifestation of the disorder and that new methods of early detection need to be developed.

REFERENCES

1. Hoppe-Syler quoted by Gunther, H.: Die Hamatoporphyrie. *Deutsches Arch. f. klin. Med.*, 1911, 105, 89.
2. Mahon, V. R., Courville, C. and Ziskind, E.: Porphyrines in Human Disease. *Med.*, 1, 355, 439, 1933.
3. Nesbit, S.: Acute Porphyria. *J. A.M.A.* Vol. 124. No. 5, 286, 294: Jan. 29, 1944.
4. Kluver, H.: On Naturally Occurring Porphyrins in the Central Nervous System: *Science,* Vol. 99, 482-484, June 16, 1944.
   Kluver, H.: Porphyrins, The Nervous System and Behavior: *J. of Psychology,* 17: 209-227: 1944.
5. Watson, C. J., and Schwartz, Samuel: A Simple Test for Urinary Porphobilinogen, *Proc. Soc. Exper. Bio. & Med.* 47: 393-394-1941.
6. Thorner, M. W.: Multiple Neuritis from Therapy with Hematoporphyrin, *J.A.M.A.* 108: 969-970 (March 20) 1937.
7. Beilin, I. A.: Das Landrysche Syndrom mit Hamatoporphyrinurie, *Russk. klin.* 10, 161, 1928.

Neurological Clinical Pathological Conference

of the

Cincinnati General Hospital

CHARLES D. ARING, M.D., Editor

CASE NO. 189953

Presentation

A 17 year old, white, male laborer was admitted to the Neurological Service on January 13. In mid October he had fallen two stories from a scaffolding, landing on his back and head on a cement walk. He felt slightly dizzy but did not think that he lost consciousness. He went home and returned to work the next day feeling well. One week later he fell down a flight of 14 steps. He did not think that he tripped or had any other reason to fall, but he was apparently uninjured. In mid November friends noted that he staggered from side to side when walking. One week later he began to have a feeling of unsteadiness on gazing at moving objects, accompanied by pain in the abdomen, chest, and head. Shortly thereafter he began to vomit with nausea, with or without food intake. Vomiting was projectile in type and continued several times daily until his entry to the hospital. Since late November there had been tenesmus, obstinate constipation, and urgency and difficulty in starting urination. The spells of light-headedness became more frequent and were particularly noted on changing to the standing or reclining positions; sometimes they were associated with the pain in the abdomen, chest, and head. Severe frontal headaches lasting 5 to 6 hours required him to recline and this together with weakness and unsteadiness forced him to remain in bed the better part of the month prior to admission. Generalized weakness and tremor became obvious in late November, and just before admission he could not walk without holding on; nor could he button his clothes or tie his shoelaces because of what he called "nervousness." He had lost about 20 pounds in two months. Dys-

phagia had been observed since early January.

The patient was the second of seven children, having been delivered by forceps. He had difficulty in school, completing only six grades at 16 years of age. He was considered a behavior problem. He had always been a "sissy" and lacked normal muscle coordination. He caught a ball like a girl and could not run well. He had never been able to move his eyes well. He had been struck by an automobile at the age of 7 and rendered unconscious, making a complete recovery without sequellae in two or three days.

The mother, aged 41, had hypertension at the time of her last pregnancy and the eldest brother, aged 19, had been rejected for the Armed Forces because of hypertension. The maternal grandmother, who was still living, had high blood pressure.

At the initial examination he appeared chronically ill; he was thin, dull, and listless and had a vacuous stare. At times he seemed confused and would suddenly interject such relatively unexpected statements as, "I run and jump and everything." He was oriented and cooperative but restless. The abnormal findings were a curious inability to move the eyes in response to command, though on reflex movements (naturally and to noise), vertical excursion seemed adequate but lateral excursion markedly limited. There was some ptosis on the left and the left pupil was a shade larger than the right. The retinal arteries were narrow and tortuous. His face was flat and expressionless and he was not inclined to move it, which appeared to require great effort; his smile resembled a sneer and he was unable to wrinkle the forehead. There was mild weakness of the left extremities and considerable decomposition of all movements. There were ataxia of all extremities and of the trunk, past-pointing and inability to perform rapid alternating movements, worse in the left extremities. He stood on a wide base with the trunk bent slightly forward; he was unable to stand in the Romberg position and fell to the left. The gait was unsteady and staggering; he progressed with the feet wide apart, usually falling toward the left. All deep reflexes were hyperactive, possibly slightly more so on the left. The left abdominal and cremasteric reflexes were not obtained. There were sustained left ankle clonus and unsustained clonus on the right; there were bilateral Hoffmann responses and extensor plantar responses, all more obvious on the left. The bladder was distended so that its superior border was 4 cm. below the umbilicus. On catheterization 625 cc. of urine was obtained.

On the day following, the corneal reflex was decreased on the right, and there was slight weakness of the right side of the face and of closure of both eyelids. The outstretched upper extremities were ataxic and both arms wandered toward the midline. Resistance to passive movement was probably normal, except in the left lower extremity where it was reduced. He was discharged from the hospital on January 15 because he became too noisy for ward care. He had become assertive about going home on January 14, and by the 15th he repeatedly shouted, "I want to go home."

On January 28 he was returned with a retention catheter in place. He was just as noisy as he had been previously and considerable sedation was required to keep him in bed despite the use of sideboards and shackles. Now a completely masked face was obvious, wrinkling of the forehead was impossible, the mouth hung open, and the jaw fell toward the dependent side. Changes in the neurological condition over preceding examinations were recorded as follows: He could read only the largest size print. The only movement on attempting left conjugate deviation of the eyes was gross nystagmus and there was nystagmus on upward gaze. Right lateral and downward movement of the eyes was impossible. Corneal reflexes were reduced. The pupils reacted through only a fair range. Facial weakness of the peripheral type was more marked on the right than on the left. Speech was slow and slurred; there was some weakness in all extremities more marked on the left. The abdominal reflexes were absent.

His condition continued unchanged until February 17 when a nurse found him froth-

ing at the mouth and cyanotic. He died a few minutes later.

Laboratory Data: The blood pressure ranged about 140/100, and the pulse rate around 100. The urine at first normal was finally loaded with white blood cells and albumin. The red blood count descended from 5 to 4 million, the hemoglobin from 15.5 grams to 13.5, the white blood count ascended from 8,600 to 10,400. The blood Kahn was negative. Roentgen plates of the skull and cervical spine were normal. A lumbar puncture was done on January 13. The initial pressure was 100 mm. of water, the CSF resembled water, contained no cells and 39 mg.% protein, the colloidal gold curve and Wassermann were normal.

Differential Diagnosis

Dr. H. D. McIntyre: In considering the differential diagnosis in this case the first thing that impresses one is that there was some congenital defect in the nervous system, which probably was responsible for the ataxia and falls and for the mental retardation.

Among the disorders of more recent origin to be considered is subdural hematoma since progressive neurological symptoms developed a few weeks after a fall. Subdural hematoma would be unlikely for the reason that such signs as were presented by this patient could hardly be produced by subdural hemorrhage and a completely normal cerebrospinal fluid would be unusual in this condition.

Cerebellar tumor is an unlikely consideration. Glioma of the pons is my diagnosis since therein may be fitted all of the later signs and symptoms. The patient was of the proper age group. There were no signs of increased intracranial pressure (pulse rate, optic discs, cerebrospinal fluid, etc.), which usually occur if at all, late in the course of this disease. The involvement of the motor functions of the eyes, including conjugate deviation, points to pontine localization, as do the bilateral facial (peripheral) palsy and bilateral pyramidal tract signs. The attacks of nausea and vomiting, I believe, were originating from direct involvement of the vestibular nuclei or of the vagus nuclei or connections thereof. If these signs had been due to increased intracranial pressure, I would think that there would have been other signs of it in the cerebrospinal fluid or in the optic discs or in the pulse rate. Final bilateral involvement of the motor portion of the trigeminal nucleus could be explained on a progressive pontine lesion; and the late dysphagia and dysarthria on the extension of tumor downward into the medulla. The palatal and pharyngeal reflexes are not recorded.

Another condition that might explain these signs is aneurysm of the basilar artery, in which one would expect some catastrophic development at some time during the course of the illness. In this case, however, the disorder was slowly progressive. Then, of course, progressive thrombosis of the basilar artery should be considered in differential diagnosis. However, there is little reason to suspect occlusive vascular disease in this young man, even though he had a tendency to hypertension. Syphilis may be excluded, not only by reason of the history, but also because of the serological studies which were all normal.

Myasthenia gravis might be considered but dismissed immediately because of the presence of marked pyramidal tract signs.

To summarize the pertinent neurological signs briefly: the optic discs were normal, the retinal arteries showed some arteriosclerosis, the third and fourth cranial nerve nuclei were in better condition than the sixth, there were bilateral motor neuronal lesions of the fifth and of the seventh cranial nerve nuclei and I assume that there was some involvement of the vestibular portion of the eighth nucleus (dizziness and vomiting). There was involvement of the ninth and tenth cranial nuclei.

The hyperreflexia and extensor plantar signs indicate pyramidal tract lesion, as does the impairment of the abdominal reflexes. The bladder involvement implicates tracts traversing the stem close to the pyramidal tracts. The extreme ataxia I would attribute to disturbance of pontocerebellar connections. The normal cerebrospinal fluid and roentgen studies of the skull tend to exclude certain types of tumor.

I think that this patient had a glioma of

the pons. However, the theory that he also had some congenital disorder of the central nervous system cannot be entirely dismissed.

Clinical Diagnosis

Glioma of the pons.

Congenital mental deficiency.

Doctor McIntyre's Diagnosis

Glioma of the pons.

Congenital disorder of the central nervous system of undetermined type.

Anatomical Diagnosis

Diffuse glioblastosis of the brain stem and cerebellum with malignant degeneration (glioblastoma) about the aqueduct of Sylvius and the fourth ventricle.

Acute cystitis, ureteritis, and pyelitis.

Discussion of Pathology

Dr. I. Mark Scheinker: On sectioning the brain the hemispheres appeared normal. There was little sign of increased intracranial pressure. The main interest centered around the region of the brain stem and cerebellum.

There was tremendous enlargement of the pons in all directions. The fourth ventricle was narrowed but not blocked. There was no circumscribed tumor formation. There was diffuse enlargement of the entire brain stem and that is important in the differentiation of this condition from a circumscribed tumor. On gross section of the stem an area of necrosis was found which centered about the aqueduct and the fourth ventricle. There was some staining of this area, as with blood.

On microscopic examination we found the nerve cells and fibers preserved and at the same time there was a tremendous increase in glia. The general structure of the brain stem, except for the increased cellularity, appeared normal; the glial cells were all about the same size and there were no mitoses. In other words there was an increase in mature glial cells. Another characteristic was the preservation of the parenchyma. The longitudinal fibers were preserved, the cross-sectioned fibers were preserved, and the ganglion cells in the pons were of normal appearance. Here then is a picture that we usually do not see in tumor.

In the Loyez stain for myelin, in contradistinction to the preservation of the nerve fibers, the myelin sheaths were destroyed. Only a few myelin sheaths were of normal appearance; the rest showed signs of far advanced degeneration.

In sections taken from the necrotic area about the ventricle, there were changes typical of a malignant tumor. Here one found capillary proliferation and vascular changes typical of glioblastoma multiforme; there were polymorphus cells and some giant cell formation—a picture of malignant glioma.

We are dealing with a condition which should be classified as a blastomatous malformation with diffuse increase of glia. The pathologic picture is different from that of a circumscribed glioma. Diffuse enlargement of the area involved with preservation of parenchyma has occurred. In contradistinction, in the peripheral zone of a glioma the parenchyma might be preserved, but to see preservation of nerve cells throughout the whole area of tumor is unusual. Finally the discrepancy between the preservation of axis cylinders and nerve cells and the destruction of myelin sheaths is not a characteristic of the usual tumor. The process in this case is widespread through the pons, midbrain, medulla and cerebellum.

The question arises: What is this if it is not tumor? It is a blastomatous malformation characterized by a diffuse proliferation of mature glia intermediate between that of a true circumscribed glioma and congenital malformation. It is not a rare condition; it was first described in 1936[1]; Nevin[2] described several cases in 1938. Doctor Evans and I[3] have described hemispheral localization of the process. We described three cases at that time, and since then have observed six more cases in this clinic. I think the name diffuse glioblastosis is appropriate because there is a diffuse glial malformation and proliferation.

It is well to consider diffuse glioblastosis separately from the circumscribed tumors. Surgical intervention is useless. It is worthwhile to know this histopathological picture because it may be differentiated clinically from tumor and also from disseminated sclerosis. In the original case described in 1936 the clinical diagnosis was multiple scle-

rosis. As in disseminated sclerosis, the myelin sheaths are destroyed; and in the first case reported there was a certain remission and exacerbation. Possibly the remittent course is explainable, since as in disseminated sclerosis the axis cylinders are preserved.

This condition has been confused with glioma of the pons. The clinical picture however isn't usually that of circumscribed neoplasm. Usually the cerebrospinal fluid pressure is normal and there are no cerebrospinal fluid changes otherwise. It is worthwhile to try to differentiate this condition from multiple sclerosis and when it occurs in the brain stem from circumscribed glioma of the pons.

Dr. Harry M. Salzer: Why should this demyelination occur?

Doctor Scheinker: I don't know. This part of the problem is probably similar to that in multiple sclerosis.

Dr. Charles D. Aring: Isn't it possible that the glial increase which appears to be especially stimulated terminally interferes with the circulation? Hurst's[4] experimental studies on demyelination might apply here. After repeated, relatively minor episodes of hypoxia, he found demyelination which he thought indicated that white matter has poor recuperative capacity. I think there is a vascular factor at work in our case.

Dr. Milton Rosenbaum: It seems to me if I were a student (which I am in this case as this is the first time I have had contact with diffuse glioblastosis), I would go away confused because I think Doctor Scheinker has given the impression that this condition may be diagnosed clinically. I don't see how one can make this diagnosis clinically. Most pontine tumors cause no increased intracranial pressure until late, and are diffuse. All the histopathological sections that I have seen of pontine gliomas indicated that nerve cells and fibers are pushed aside by the tumor. I think this is a diagnosis to be made pathologically. Incidentally there is no surgical therapy for pontine glioma.

Doctor Scheinker: It is probably possible to suspect the diagnosis of diffuse glioblastosis clinically. There usually is something wrong with these people since birth, as there was in this case. In the hemispheral types longstanding convulsive seizures have occurred with mental retardation and slowed development. We have seen this condition in association with von Recklinghausen's disease in two instances. It is likely that many of these cases have been described as glioma of the pons or hypertrophy of the pons. It should be noted that diffuse glioblastosis may be found throughout the brain.

Doctor Aring: This case was selected not because of its relative rarity but because it furnished a perfect study in localization for the senior students. For them as for the rest of us, the case may give clues to the origin and behavior of tumors of the central nervous system. Presumably diffuse glial overgrowth is always present and as Doctor McIntyre remarked was responsible for the clinical picture up until the last few months of life.

Is it possible that the commotion of nervous tissue incident to the falls altered the nourishment of this already abnormal nervous system, so that malignant growth occurred resulting in death? We know, of course, that tumors may grow without the stimulus afforded by trauma.

A gliomatous abnormality of this type transcends the abilities of surgery. Scherer[5] among others has illustrated this truism in many types of glioma, which spread beyond the visual ability and the acumen of the neurosurgeon. Doctor Evans enunciated this point in one of our recent conferences when he said, "The therapy of these disorders is not surgical, it is biological."

REFERENCES

1. Scheinker, I. M. Beitrag zur Frage der diffusen Sclerose (Diffuse Glioblastose des Zentralnervensystems) *Deutsche Ztschr. f. Nervenh.*, 139: 253, 1936.
   Scheinker, I. M. Zur Frage der diffusen Glioblastose des Gehirns. *Deutsche Ztschr. f. Nervenh.*, 145: 70, 1938.
2. Nevin, S. Gliomatosis cerebri. *Brain*, 61: 170-191, 1938.
3. Scheinker, I. M. and Evans, J. P. Diffuse cerebral glioblastosis, *J. Neuropath. Exp. Neurol.*, 2: 178-189, 1943.
4. Hurst, E. W. G. E. Rennie Memorial Lecture; demyelination; clinico-pathological and experimental study. *M. J. Australia*, 2: 661-666, 1941.
5. Scherer, H. J. Forms of growth in gliomas and their practical significance. *Brain*, 63: 1-35, 1940.

Psychopathology of Ingratitude

EDMUND BERGLER, M.D.*
New York, New York

> "If you pick up a starving dog and make him prosperous, he will not bite you. This is the principal difference between a dog and a man."
>
> (Mark Twain, "Puddinhead Wilson's Calendar")

A constant source of indignation stems from human ingratitude and every complainer has a stock of favorite examples of it. The conclusions about human nature which are generally drawn from these examples are either moralistic, pessimistic, or resigned. Strangely enough, few people ask themselves whether gratitude does not surpass human capacity and what the psychologic reasons for gratitude or lack of it are.

Gratitude as a moral requirement presupposes that human beings react logically, the reasoning being, "I did you a good turn; you have to act accordingly." What is overlooked is that gratitude has an affective case in history. Let's look at its genetic record.

The very young child does not feel gratitude for food, loving care, attention and gifts, since he misjudges reality in the most amazing way. His yardstick is his own megalomania. Freud and Ferenczi have advanced the idea that the child learns only gradually to distinguish between his own body and the outerworld. Consequently he regards everything "good" coming from the outerworld, not as such, but as a gift he gives himself; only the "bad" refusal comes from the outside, according to this fantasy.

Gratitude has, therefore, a bad start. But the adult "forgets" only too conveniently his own early youth. Would he remember, he would see the picture differently. He would recall that he took everything "good" for granted, that he considered every denial, as necessary as it might be and even for his own good, a terrible injustice.

Every educator knows that gratitude and decency in general must be taught to the child. Gratitude as an inborn drive is clinically not observable. What is seen clinically, however, is a difference in the success of the effort to teach expression of gratitude.

We expect from a cultured, decent human being, gratitude toward his benefactor. The fact that "grateful" people do exist proves that pedagogy is not as hopeless a task as some pessimists assume. Parents do build up the feeling of gratitude in the child by making it a moral dictum. Since the child identifies with his parents, he can, if he is one of those not too neurotic persons sometimes euphemistically called "normal," restrict his original feeling that everything done for him is to be taken for granted and even show gratitude. In other words, the ability to show gratitude is an artefact built up after overcoming early misconceptions. It is a part of the adaptation to reality.

The majority of people are neurotic to some degree. Freud once mentioned his feeling of fright at the realization that he had the whole of humanity as a patient. This does not mean that everyone has a full-fledged neurosis. It means, however, that everyone has neurotic tendencies. If these tendencies increase quantitatively, we speak of them as neurosis.

One of the necessary weapons of education is restriction. If the child interprets this restriction as malice—and the more neurotic the child the more likely he is to do so—he acquires a feeling similar to that which a patriotic Frenchman had toward the Nazi invaders of his homeland—that everything is permissible against the aggressor. If one objects that the example is absurd, since there is no possible comparison between loving parents and barbaric brutes, the answer is that unconscious misjudgment of reality is one of the basic neurotic symptoms and signs. One cannot argue with a neurosis on logical grounds, especially since the child projects his own aggression onto his parents. The witch of

* Lecturer, New York Psychoanalytic Institute.

fairy tales, who eats children, is a product of this conception.

Another objection might be raised at this point. One might say that, even if the situation in early childhood were as described, it would seem that the child would grow up and correct his misjudgment. True, the neurotic child grows up. His unconscious, however, does not. Neurosis is basically an anachronism; the repressed part of the personality governs. His Majesty the Baby in the neurotic individual is the leader, not his logic, that is, his conscious. No neurotic is unconsciously as old as his birth certificate indicates; in unconscious development he has remained between the ages of 1 and 3.

All educational restrictions concerned with libidinous and aggressive wishes lead the child to feel frustrated, with resultant feeling of hate. Basically he has two ways out of the dilemma: Identification with his educator or unconscious continuation in a disguised form of the old "slave revolt" at the price of suffering. Choice of the former way results in normality; of the latter, in neurosis of different types depending on the genetic level of the fixation or regression.

Another objection might now be raised: If we grant that the child in the grown-up prevents gratitude, how can we account for the direct acts of agression and "meanness" with which some persons repay their benefactors? Clinical experience proves that it is really dangerous to be "nice" to some people; they immediately repay such treatment with some mean trick, whereas previously they showed only indifference. The explanation of this enigma is that the benefactor, by his kind deed, enters the "magic circle" of the patient's neurotic repetition compulsion. The neurotic then uses him unconsciously as a hitching post for repetition of "injustices" allegedly experienced and seeks revenge on him. The fact that the accidental benefactor is not identical with the early "disappointers" and has himself caused no disappointment does not matter; unconsciously he is identified with the early "disappointers," and all hatred, real or compensatory, is heaped on him. He is the innocent victim of the repetition repertoire of his neurotic beneficiary:

> "Now hatred is by far the longest pleasure.
> Men love in haste but they detest at leisure."
>
> (Lord Byron, "Don Juan")

Two other factors must be taken into account to explain the inner aggression of some neurotic individuals toward their benefactors. First is the limitlessness of the child's desire for love and exclusive attention. The moment the benefactor is thrown into the neurotic circle of the beneficiary's past, his deed of kindness is measured unconsciously, not according to real facts, but to imaginary ones. His good turn is compared inwardly to the alleged lack of love, attention and kindness about which the beneficiary inwardly grieves. This debt is projected upon the benefactor, with the result that his deed becomes an infinitesimal part-payment of an old debt. Thus the neurotic, by means of this queer form of unconscious mathematics, changes a kind act into a negligible installment on an unpaid "billion dollar" obligation.

The second factor to be considered is the quantitatively different amount of unconscious self-damaging tendencies from which every neurotic suffers as an indispensable condition of his neurosis. "Psychic masochists" have a queer approach to reality. They are submissive toward the stronger person but very aggressive toward the weaker. The moment the benefactor does a good deed, he is inwardly classified as "weak" and consequently treated by the neurotic with all the aggression at his disposal. Therefore, not gratitude but quite the contrary, aggression appears on the surface. England's famous Dr. Samuel Johnson stated: "Gratitude is a species of justice." True, but he forgot to mention that *unconscious* justice is regulated, not by reason but by irrational feelings.

Moreover, some people are incapable of "taking" a graceful action, and provoke in return until their benefactor becomes disgusted with them. Numerous anecdotes have reference to this. For instance, there is the story that in a small community an elderly ne'er-do-well was invited once a week

to dinner by a wealthy man. Although the ne'er-do-well had excelled previously only in exorbitant eating, one day he brought with him an uninvited young man. After dinner his host asked him, "Who is the young man?" "Oh," was the answer, "that is my son-in-law, and I promised him food and a home in his marriage for the first years. . ." If we interpret this story, we see that the beneficiary does not want unconsciously the gift bestowed on him, but rather provokes being thrown out, that he may have a new source for complaints, overlooking, of course, his own unconscious provocation.

Some beneficiaries have convenient methods of discarding their specific benefactors —by misjudging their motives ("He did it for publicity," or "He did it to make me feel humiliated," etc.). Or they even believe that the benefactor should be grateful to them for giving him the opportunity to "straighten out his accounts with God" by doing a good deed.

The unconscious reasons for doing a good turn are not discussed here. They are not less complicated than those of ingratitude. The writer discusses this aspect in another paper and the conclusions reached there confirm Alexander Pope's opinion:

> "Not always actions show the man;
> We find who does a kindness is not
> always kind."

Some people advance the idea that gratitude is so seldom encountered because people don't want to be reminded of their own beginnings, when they needed help. This deduction is faulty. People forget their previous dependence and their bill of gratitude because they live unconsciously on the basis of the "autarchic fantasy." This unconscious fantasy negates everything worthwhile as coming from the outside; once more, we are confronted with childlike megalomania.

Instinctive knowledge of human reactions has led some philosophers to warn against expecting gratitude. To quote a few. Charron: "He who receives a good turn should never forget it; he who does one should never remember it." And Rousseau: "Gratitude is a duty which ought to be paid, but none we have right to expect." La Rochefoucald warned even against believing in gratitude when it is shown: "The gratitude of most men is but a secret desire to receive greater benefits." His observation is often correct, although the psychologic reasons are more involved than he suspected. For instance, we sometimes see a display of gratitude on an irrational basis. "Simple" people are sometimes grateful because they feel that a kind act of a person whom they consider socially above them brings them psychologically into the orbit of the higher social stratum. Via identification, they pay tribute in their gratitude—to themselves. Sometimes exactly the opposite attitude is encountered: Every kind action of a benefactor on a socially higher level is made worthless by the beneficiary's inner thought of the injustice he experiences in not being on the same economic or social level.

A special type of ingratitude is cashed in by people with new ideas—the scientist, the inventor, the poet, the prophetic homo-politicus of a high level. Biography and observation alike prove that almost every "great man" who is ahead of his time is ridiculed and he is fortunate indeed if he is not completely ostracized during his lifetime. Gratitude comes to him only posthumously. "The public," remarked Henrik Ibsen ironically, "doesn't require any new ideas. The public is best served by the good, old-fashioned ideas it already has." ("An Enemy of the People.") Many statements of scientists, humorists, and educators bear out this observation. Sir William Osler complained: "In science the credit goes to the man who convinces the world, not to the man to whom the idea first occurs." Donald Robert Perry Marquis remarked bitterly: "If you make people think they're thinking, they'll love you. If you really make them think, they'll hate you." Thomas Raynesford Lounsbury said ironically, "We must view with profound respect the infinite capacity of the human mind to resist the introduction of useful knowledge."

Taking stock of the complexity of the problems involved in ingratitude, we come to the conclusion that we don't further understanding of this human reaction by com-

plaining and moralizing about "the still small voice of gratitude" (Gray, "For Music"). Only by unearthing the unconscious reasons for even "simple" human actions can we come one step further toward unraveling their mystery. The more "normal" or "typical" such reactions are, the less we know about them.

AUTHOR'S NOTE—The writer has maintained repeatedly that there are no "simple" human reactions. The palimpsest of simplicity cover a complicated unconscious substructure. The following are examples in this author's writings:

1. "The Psychology of the Cynic," **Psychoan. Beweg.**, V 1, 19-52, and V 2, 130-166, 1933.
2. "Plagiarism," **Psychoan. Beweg.**, IV, No. 5., p. 393-420, 1932.
3. "On the Psychology of the Oral Pessimist," **Imago**, XX, No. 3, p. 330-376, 1934.
4. "Transference and Love" (in collab. with L. Jekels), **Imago**, XX, No. 1, p. 5-32, 1934.
5. "Psychoanalysis of the Uncanny," **Int. J. Psychoan.**, XV, Parts 2 & 3, p. 215-244, London, 1934.
6. "Obscene Words," **Psychoan. Quart.**, V, No. 2, p. 226-248, 1936.
7. "Psychology of Pathos" (in collab. with A. Winterstein), **Int. J. Psychoan.**, XVI, Part 4, p. 414-424, 1936.
8. "The Feeling of Being Right," **Arch. Gen. di Neur. Psychiat. e Psychoan.**, XVIII, No. 1, p. 21-31, Naples, 1937.
9. "Clinical Contributions to the Psychogenesis of Humor," **Psychoan. Rev.**, XXIV, No. 1, p. 34-53, 1937.
10. "Psychoanalysis of the Ability to Wait and of Impatience," **Psychoan. Rev.**, XXVI, No. 1, p. 11-32, 1939.
11. "Psychology of Jealousy," **Int. Z. f. Psychoan. und Imago**, XXIV, No. 4, p. 384-397, 1939.
12. "The Psychology of the Gambler," **Imago**, XXII, No. 4, p. 409-441, 1936.
13. "The Gambler; a Misunderstood Neurotic," **J. Crim. Psychopath.**, Vol. IV, No. 3, p. 379-393, 1943.
14. "Hypocrisy, Its Implications in Neurosis and Criminal Psychopathology," **J. Crim. Psychopath.**, Vol. IV, No. 4, p. 605-628, 1943.
15. "Logorrhea." **Psychiatric Quart.**, Vol. XVIII, No. 1, p. 26-42, 1944.

Newsnotes

RED CROSS NEEDS 3,000 WORKERS

The American Red Cross needs 750 trained social workers at once for supervisory, administrative and staff positions in military hospitals, largely in the United States. The wounded and disabled returned to this country for further treatment need the skilled help of trained and experienced social workers.

New and higher salary schedules, ranging from $170 to $350 monthly, depending on education, experience and job assignment, have been adopted by the Red Cross, as have also annual increments and promotions. Quarters are provided, and if not available at the hospital, an additional allowance is made. Free uniforms are also issued.

In addition 1,650 untrained and partially trained workers are needed by the Red Cross to serve in the area of social case work under professional guidance. Salaries range from $140 to $200 monthly. The hospital program also calls for 600 recreation workers at monthly salaries of $150 to $325.

The project for which these 3,000 hospital workers are being recruited will continue for many years. Despite this, however, employment will be offered by the Red Cross to any qualified worker willing to serve a minimum of one year. Applications should be filed at the nearest Red Cross area office—North Atlantic Area, 300 Fourth Avenue, New York 10, N. Y., Eastern Area, 615 N. St. Asaph Street, Alexandria, Va., Southeastern Area, 230 Spring Street, N. W., Atlanta 3, Ga., Midwest Area, 1709 Washington Avenue, St. Louis 3, Mo., and Pacific Area, Civic Auditorium, Larkin & Grove Streets, San Francisco 1, Calif.

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Western State Psychiatric Institute and Clinic, formerly Western State Psychiatric Hospital, located at Pittsburgh, Pennsylvania, in cooperation with the University of Pittsburgh, has arranged facilities for instruction to students in medicine, nursing, psychology, social service and dentistry.

Six junior and six senior residencies in psychiatry are available. Junior positions offer opportunities in clinical work and teaching. Senior positions require previous experience in psychiatry; this work is largely confined to the care and treatment of out-patients. The program for residents has been approved by the Council on American Education and Hospitals of the American Medical Association, and the American Board of Psychiatry and Neurology. Both men and women not subject to military service may be appointed. Later it may be possible to accept applicants liable for military service if deferment can be obtained. The stipend is $79 per month and maintenance, subject to withholding tax and retirement. Residents must conform to Pennsylvania laws relative to licensure. Pennsylvania residents are given first preference. Further information can be obtained from and application should be made to Grosvenor B. Pearson, M.D., Director. A prospectus of the training program will be sent to applicants on request.

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